

REMARKS

In section 3 of the Office Action, the Examiner rejected claims 9-13, 20, and 21 under 35 U.S.C. §102(e) as being anticipated by the Takashimizu patent.

The Takashimizu patent shows in Figure 15 a digital broadcasting signal receiving, recording, and reproducing apparatus including an antenna 501, a tuner 502, a QPSK demodulator 503, a forward error correction block 504, a switch 505, a first packet separating circuit 506, an MPEG2 decoder 507, a second packet separating circuit 509, a packet replacing circuit 510, an interface circuit 511, a recording and reproducing apparatus 512, a system controller 513, an output circuit 514, and a video and audio output terminal 518.

A satellite input signal is received by the antenna 501. The tuner 502 tunes to a channel in response to the system controller 513. The output signal from the tuner 502 is demodulated by the QPSK demodulator 503, and the forward error correction block 504 corrects errors in the demodulated signal. The error corrected signal is provided via the switch 505 to the first packet separating circuit 506. The first packet separating circuit 506 selects a desired program from the multiplexed programs in the tuned channel. The selected

program is decompressed by the MPEG2 decoder 507 to reproduce both a digital video signal and a digital audio signal. The digital video signal and the digital audio signal are converted into analog video and audio signals, respectively, by the output circuit 514, which supplies the analog video and audio signals to the video and audio output terminal 518.

The first packet separating circuit 506 operates according to steps 201 to 209 of Figure 3 to extract a selected video and audio stream. At 201, a user selects a television program (identified by the Takashimizu patent as a logical channel) from a plurality of programs multiplexed in the physical channel to which the tuner 502 is tuned. At 202, a Program Association Table is received in a packet of the multiplexed signal. The Program Association Table is contained in the PSI (Program Specific Information). At 203, a check is made as to whether the selected television program (logical channel) is present in the Program Association Table.

If the selected television program (logical channel) is not present, a Network Information Table in the PSI is retrieved in order to acquire a physical channel containing the selected television program at a step 204. The Network Information Table contains a

relationship between the physical channel and the selected television program. At step 205, the tuner 502 is controlled to select the physical channel corresponding to the selected television program. At step 206, a Program Association Table is retrieved from the physical channel tuned by the tuner 502.

If the Program Association Table acquired at step 202 contains the logical channel for the selected television program, or after step 206, a PMT (Program Map Table) is acquired at step 207. This Program Map Table contains the PID of the video and audio for the selected television program.

The PID and the program clock reference of the selected television program are acquired at step 208. The acquired PID is provided to a demultiplexer to demultiplex the selected video and audio streams out of the multiplexed physical channel, and the demultiplexed video and audio streams are provided to the MPEG2 decoder 507.

The MPEG2 decoder 507 decodes the video and audio of the selected television program, and the decoded video and audio are processed in the output circuit 514 in order to be converted into analog signals. The analog video and audio signals are provided at the output

terminal 518 to an external television set so that the selected program is displayed to the user.

A television program can also be recorded by use of the second packet separating circuit 509, the packet replacing circuit 510, the interface circuit 511, and the recording and reproducing apparatus 512 mentioned briefly above. The second packet separating circuit 509 extracts data which is required when the user wishes only to record the selected television program. The program association table, the program map table, the video and audio data, a program clock reference, and information related to the selected television program are extracted and are recorded on the recording/reproducing apparatus 512 via the packet replacing circuit 510 and the interface circuit 511.

The packet replacing circuit 510 is shown in Figure 16 of the Takashimizu patent. A buffer 44 temporarily stores several bytes of data from the forward error correction 504, a PID detecting circuit 40 detects a PID from the data stored in the buffer 44, a PID coincidence circuit 41 compares the PID detected by the PID detecting circuit 40 with preselected values stored in a PID register 41, a storage circuit 42 stores the PID of the selected television program, and a selecting

circuit 46 selects the data from the buffer 44 or the data stored in the storage circuit 42 in response to the PID coincidence circuit 41.

Figure 17 is a timing chart for the packet replacing circuit 510. Several bytes at a time of an output 45 from the second packet separating circuit 509 are sequentially stored in the buffer 44. At time 64, the PID detector 40 detects a PID 55 from the bytes stored by the buffer 44. The PID coincidence circuit 41 compares the detected PID 55 to the replaced PID 57 stored in the PID register 56. When the detected PID 55 coincides with the replaced PID 57, a detection result 51 is set high as indicated at 65. Conversely, when the detected PID 55 does not coincide with the placed PID 57, the detection result 51 remains low as indicated by a broken line of 66.

When the detection result 51 is low, the selecting circuit 46 selects the output from the buffer 44. When the detection result 51 is high, the selecting circuit 46 selects the PID that is stored in the storage circuit 42 and that is the PID of the selected television program. Thus, when a program is recorded, a program association table containing the PIDs of a plurality of multiplexed programs is replaced by a program association

table containing only the PID of the recorded television program.

By contrast, independent claim 9 is directed to a method of replacing a data component identifying a first selected channel with a data component identifying a second selected channel. The data component identifying the first selected channel is contained in a PSIP table received in a digital television signal, and the first selected channel is different from the second selected channel. The method involves finding the data component identifying the first selected channel in the PSIP table received in the digital television signal, and modifying the digital television signal by replacing the data component identifying the first selected channel with the data component identifying the second selected channel. The data component identifying the second selected channel is not contained in the received digital television signal.

The Takashimizu patent discloses PID replacement. Because the PID is a packet identifier and is not a channel identifier, the Takashimizu patent does not disclose replacing a data component identifying a first selected channel with a data component identifying

a second selected channel. Therefore, the Takashimizu patent does not anticipate independent claim 9.

Moreover, independent claim 9 recites that the data component identifying the second selected channel is not contained in the received digital television signal. By contrast, the replacement PID as disclosed in the Takashimizu patent is contained in the received signal.

For this reason also, the Takashimizu patent does not anticipate independent claim 9.

Because the Takashimizu patent does not anticipate independent claim 9, the Takashimizu patent likewise does not anticipate dependent claims 10-13, 20, and 21.

In addition, dependent claims 11 and 13 recite the re-computing of a cyclic redundancy code based upon the new data component and the replacement of the old cyclic redundancy code in the PSIP packet with the re-computed cyclic redundancy code.

The Takashimizu patent merely discloses that a CRC is contained in the received signal and that the CRC may be calculated based on the replaced data. The Takashimizu patent does not also disclose that the CRC contained in the received signal is replaced in the signal by the newly calculated CRC. Indeed, there would

be little purpose in replacing the CRC contained in the received signal by the newly calculated CRC in the system disclosed in the Takashimizu patent. Thus, the Takashimizu patent does not even suggest replacing the CRC contained in the received signal by the newly calculated CRC.

For this reason also, the Takashimizu patent likewise does not anticipate dependent claims 11 and 13.

In section 5 of the office action, the Examiner rejected claims 1-4, 18, and 19 under 35 U.S.C. §103(a) as being unpatentable over the Takashimizu patent in view of the Citta patent.

Independent claim 1 is directed to a digital television signal translator comprising a tuner, a demodulator, a data replacer, and a modulator. The tuner is tuned to receive an RF digital television signal on a first selected television channel. The demodulator provides a baseband television signal from the RF digital television signal to which the tuner is tuned, and the baseband television signal includes a data component identifying the first selected channel. The data replacer modifies the baseband television signal by replacing the data component identifying the first selected channel with a data component identifying a

second selected channel different from the first selected channel, and the data component identifying the second selected channel is not contained in the received RF digital television signal. The modulator modulates the baseband television signal including the data component identifying the second selected channel for transmission as a digital television signal on the second selected channel.

As discussed above, the Takashimizu patent discloses PID replacement. Because the PID is a packet identifier and is not a channel identifier, the Takashimizu patent does not disclose replacing a data component identifying a first selected channel with a data component identifying a second selected channel.

Moreover, the Citta patent does not disclose data replacement at all.

Therefore, a combination of the Takashimizu patent and the Citta patent cannot teach or suggest the invention of independent claim 1.

Accordingly, independent claim 1 is not unpatentable over the Takashimizu patent in view of the Citta patent.

Furthermore, independent claim 1 recites that the data component identifying the second selected

channel is not contained in the received RF digital television signal. By contrast, the replacement PID as disclosed in the Takashimizu patent is contained in the received signal.

Moreover, the Citta patent does not disclose data replacement at all.

Therefore, for this reason also, a combination of the Takashimizu patent and the Citta patent cannot teach or suggest the invention of independent claim 1, and independent claim 1 is not unpatentable over the Takashimizu patent in view of the Citta patent.

Because independent claim 1 is not unpatentable over the Takashimizu patent in view of the Citta patent, dependent claims 2-4, 18, and 19 likewise are not unpatentable over the Takashimizu patent in view of the Citta patent.

In addition, dependent claims 2 and 4 recite the re-computing of a cyclic redundancy code based upon the new data component and the replacement of the old cyclic redundancy code in the PSIP packet with the re-computed cyclic redundancy code.

The Takashimizu patent merely discloses that a CRC is contained in the received signal and that the CRC may be calculated based on the replaced data. The

Takashimizu patent does not also disclose that the CRC contained in the received signal is replaced in the signal by the newly calculated CRC. Indeed, as discussed above, there would be little purpose in replacing the CRC contained in the received signal by the newly calculated CRC in the system disclosed in the Takashimizu patent. Thus, the Takashimizu patent does not even suggest replacing the CRC contained in the received signal by the newly calculated CRC. The Citta patent does not disclose cyclic redundancy codes at all.

For this reason also, dependent claims 2 and 4 are patentable over the Takashimizu patent in view of the Citta patent.

In sections 6 and 7 of the Office Action, the Examiner added the Reitmeier patent to the Takashimizu patent and/or the Citta patent in rejecting dependent claims 5-8 and 14-17.

The Reitmeier patent does not disclose modifying an electrical signal as recited in independent claims 1 and 9. Instead, the Reitmeier patent discloses a tuning system in which channel information is stored in a look up table so that when a user selects a virtual channel, the tuner is instead tuned to the physical channel that corresponds to the virtual channel in the

look up table. In other words, the look table stores the concordance between virtual channels and corresponding physical channels. This table is stored and updated based on an electronic programming guide or PSIP channel information.

Accordingly, because the Reitmeier patent does not disclose modifying an electrical signal as recited in independent claims 1 and 9, and because, as discussed above, the Takashimizu patent and the Citta patent also do not disclose modifying an electrical signal as recited in independent claims 1 and 9, the combination of the Takashimizu patent, the Citta patent, and/or the Reitmeier patent does not teach the inventions of independent claims 1 and 9.

Therefore, independent claims 1 and 9 are not unpatentable over the Takashimizu patent in view of the Citta patent and/or in view of the Reitmeier patent.

Because independent claims 1 and 9 are not unpatentable over the Takashimizu patent in view of the Citta patent and/or in view of the Reitmeier patent, dependent claims 5-8 and 14-17 likewise are not unpatentable over the Takashimizu patent in view of the Citta patent and/or in view of the Reitmeier patent.

In addition, dependent claims 6, 7, 15, and 17 recite the re-computing of a cyclic redundancy code based upon the new data component and the replacement of the old cyclic redundancy code in the PSIP packet with the re-computed cyclic redundancy code.

The Takashimizu patent merely discloses that a CRC is contained in the received signal and that the CRC may be calculated based on the replaced data. The Takashimizu patent does not also disclose that the CRC contained in the received signal is replaced in the signal by the newly calculated CRC. Indeed, as discussed above, there would be little purpose in replacing the CRC contained in the received signal by the newly calculated CRC in the system disclosed in the Takashimizu patent. Thus, the Takashimizu patent does not even suggest replacing the CRC contained in the received signal by the newly calculated CRC. The Citta patent and the Reitmeier patent do not disclose cyclic redundancy codes at all.

For this reason also, dependent claims 6, 7, 15, and 17 are patentable over the Takashimizu patent in view of the Citta patent and/or in view of the Reitmeier patent.

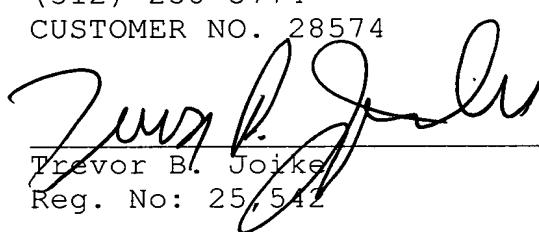
CONCLUSION

In view of the above, it is clear that the claims of the present application are patentable over the references applied by the Examiner. Accordingly, allowance of these claims and issuance of the above captioned patent application are respectfully requested.

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